



San Francisco Bay Area
Conservation and Development Commission

Energy and Climate Change

Thom Kelly
Assistant Executive Director
California Energy Commission

May 17, 2007



Topics

- Climate change affects us all, each and every one
- Energy and GHGs
- Energy Efficiency – first in “loading order”
- Smart growth/land use planning

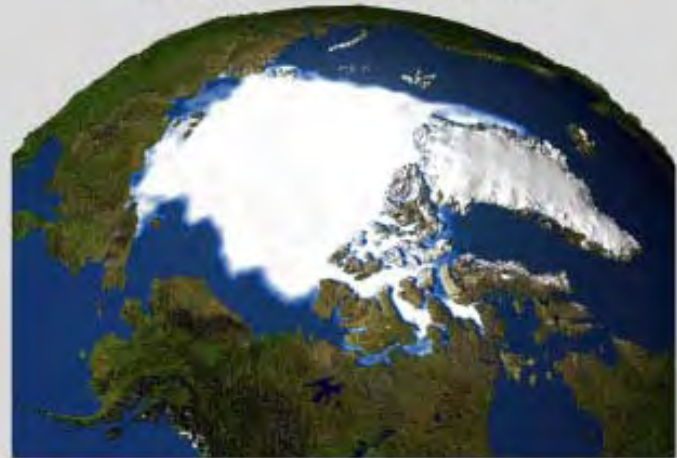


Climate Change 2007: The Physical Science Basis

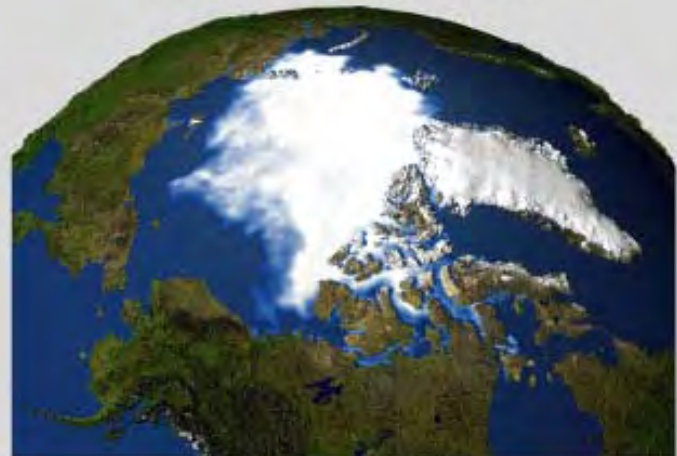
Direct Observations of Recent Climate Change

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level.

Observed sea ice September 1979



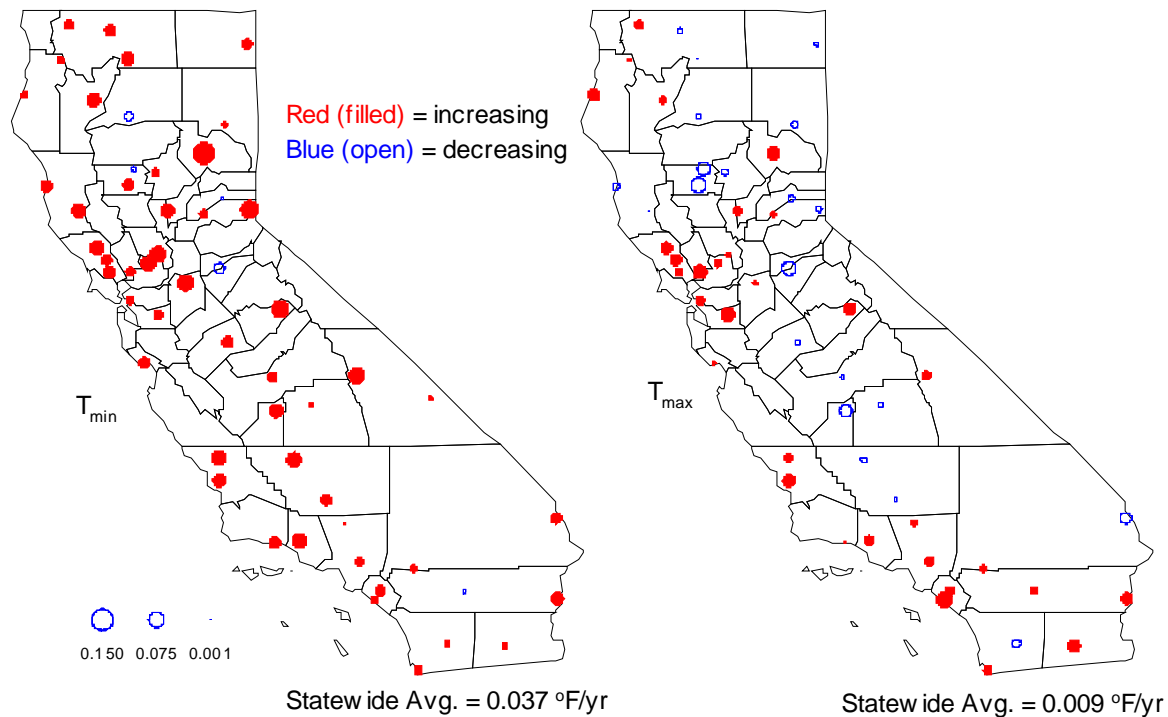
Observed sea ice September 2003



Source:
Arctic Climate Impact Assessment (ACIA), 2004.
Impacts of a Warming Arctic.



Temperature Trends



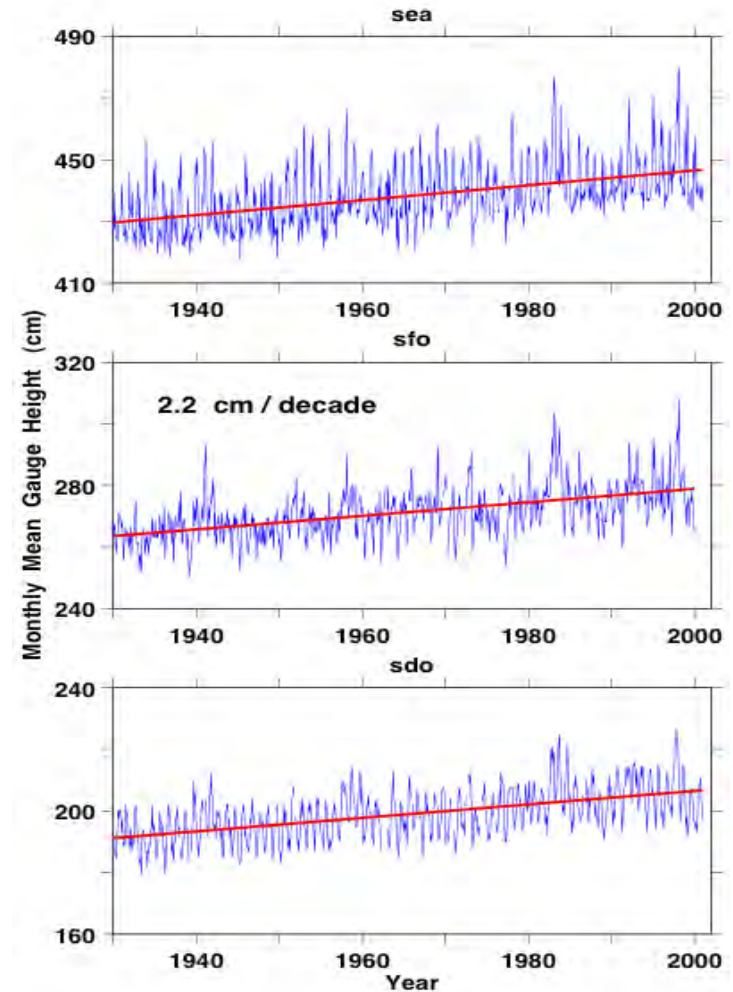
Data Source: U.S Historical Climatology Network

Summer



Sea Level Rise

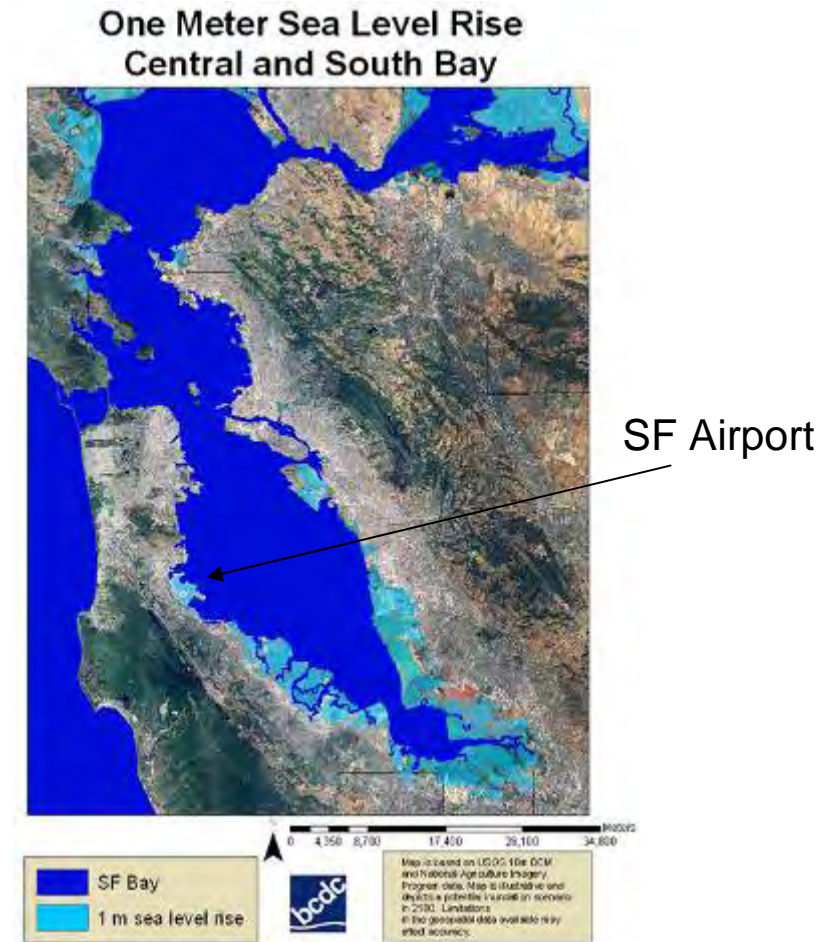
West Coast Tide
gauges
exhibit rises in
Sea level
approximately
6-8" over
the 20th century

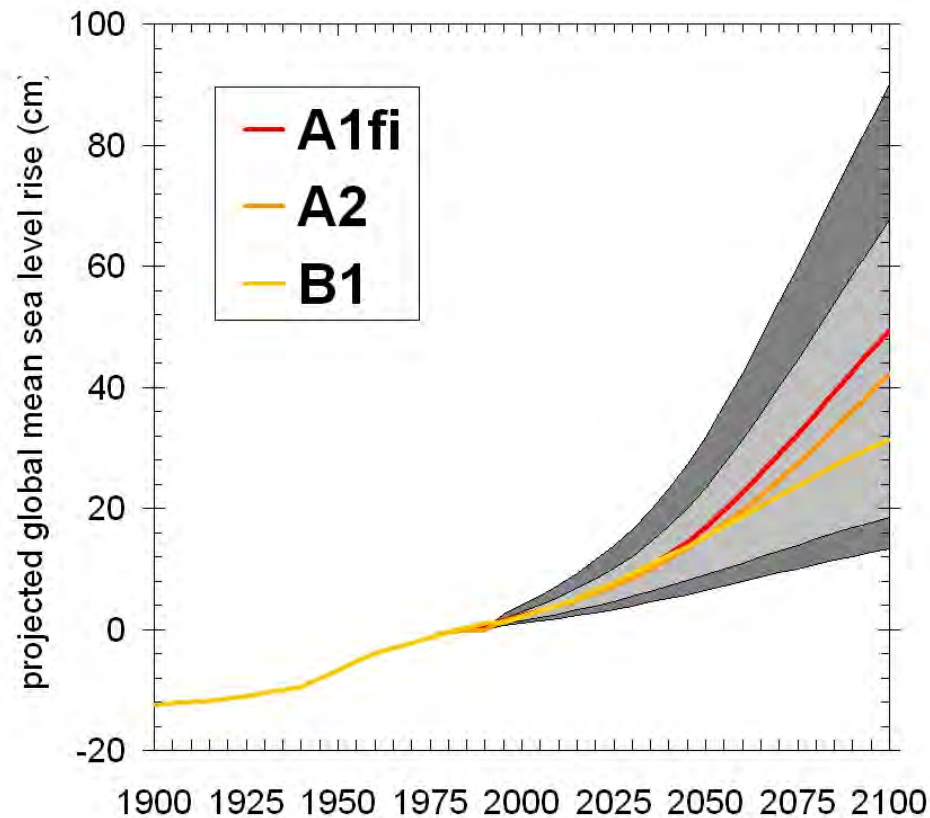




Coastal Infrastructures could be severely affected by rising sea levels

- Some areas will be permanently inundated without coastal armoring
- Sea level rise will accelerate coastal erosion





Projected sea level rise for three GHG emissions scenarios, A1fi (high emissions), A2 (medium-high emissions) and B1 (low emissions), ranges from a few cm to about 90cm over 100 years

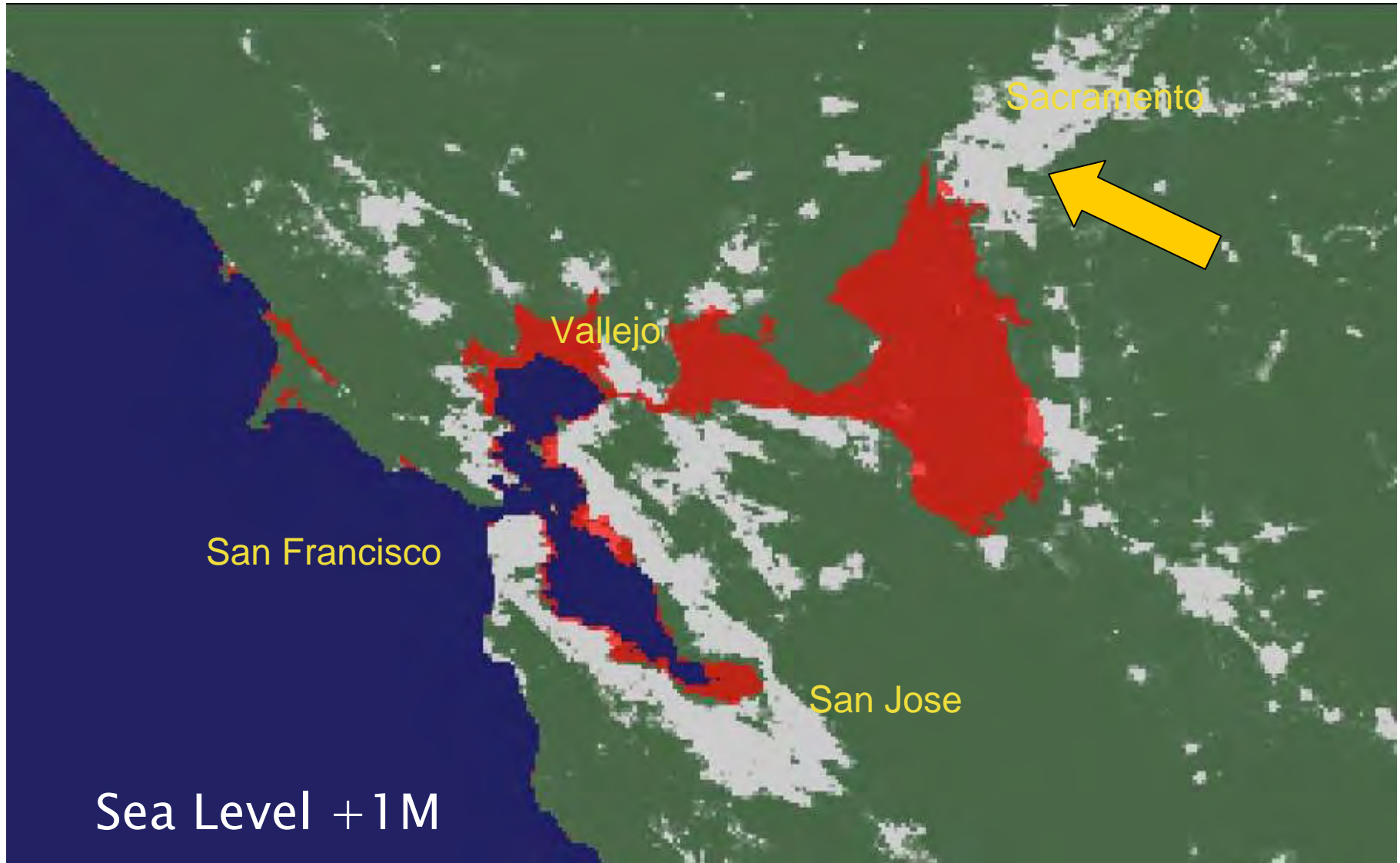


A Personal Perspective: Here's where I Live in Sacramento



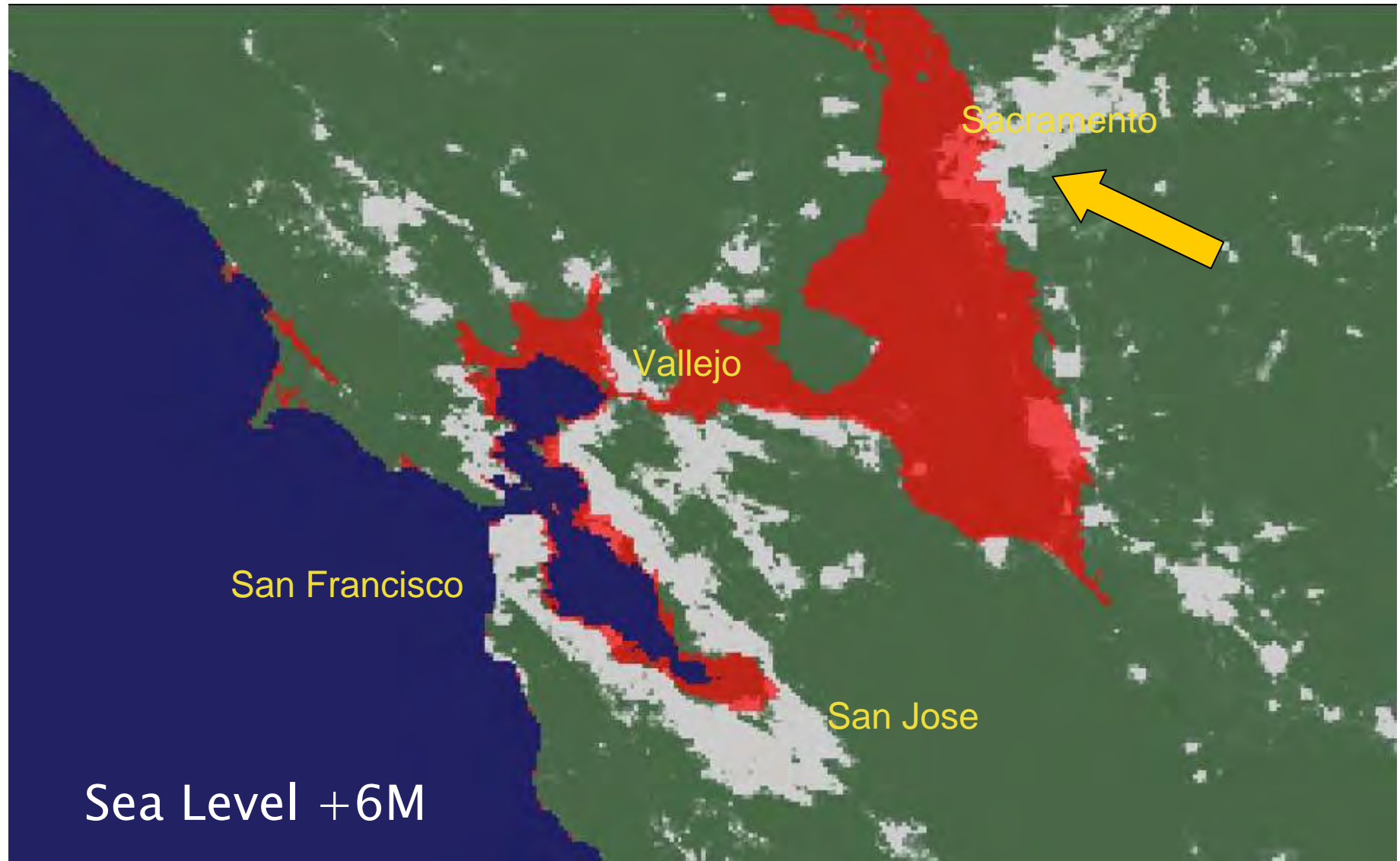


Here's where I Live
with a 1m sea level rise





Here's where I Live with a 6m storm surge





Executive Order S-3-05

June 1, 2005

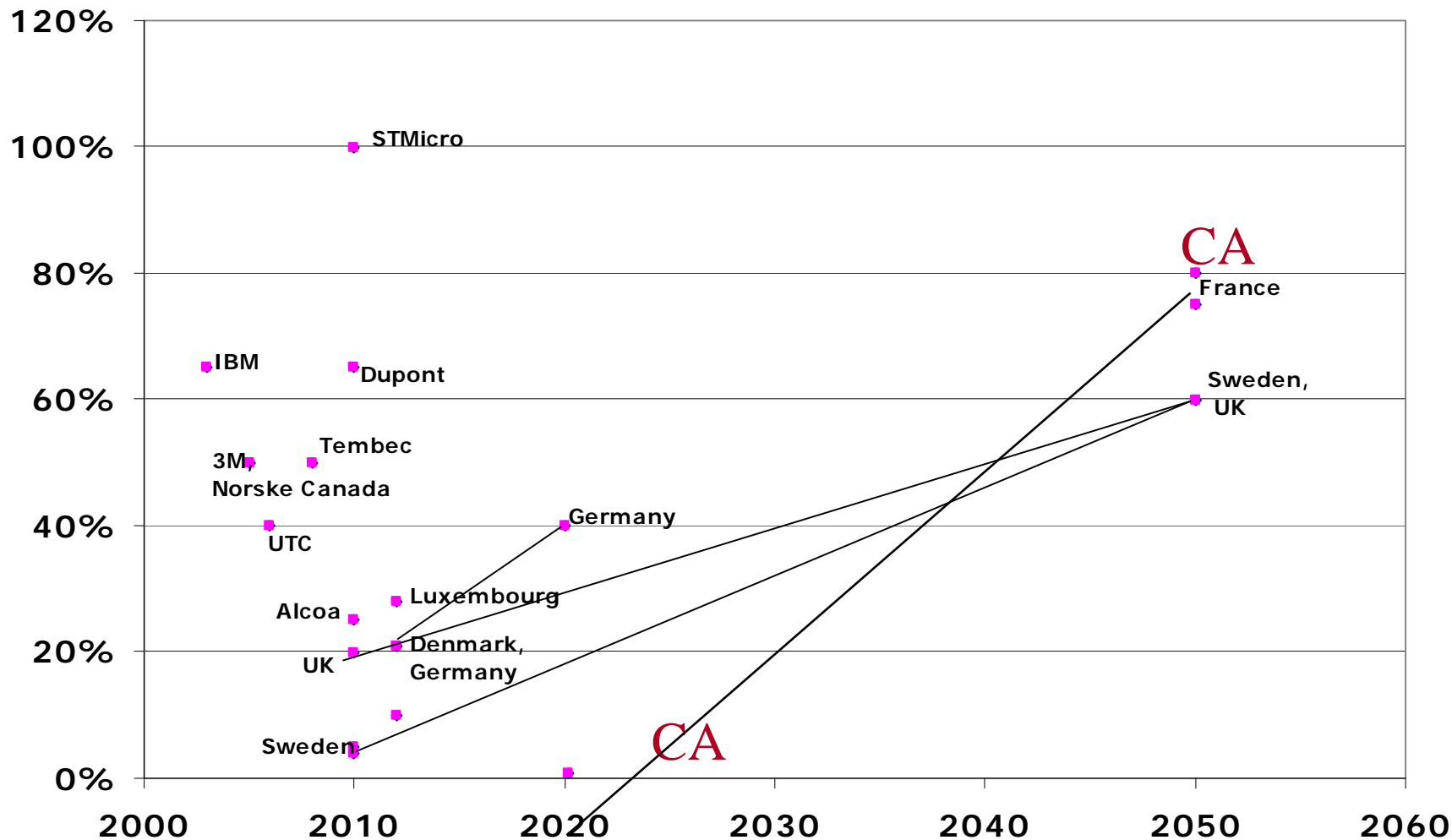
CA will reduce
Greenhouse Gases to:

- 2000 levels by 2010
- 1990 levels by 2020
- 80% below 1990
levels by 2050



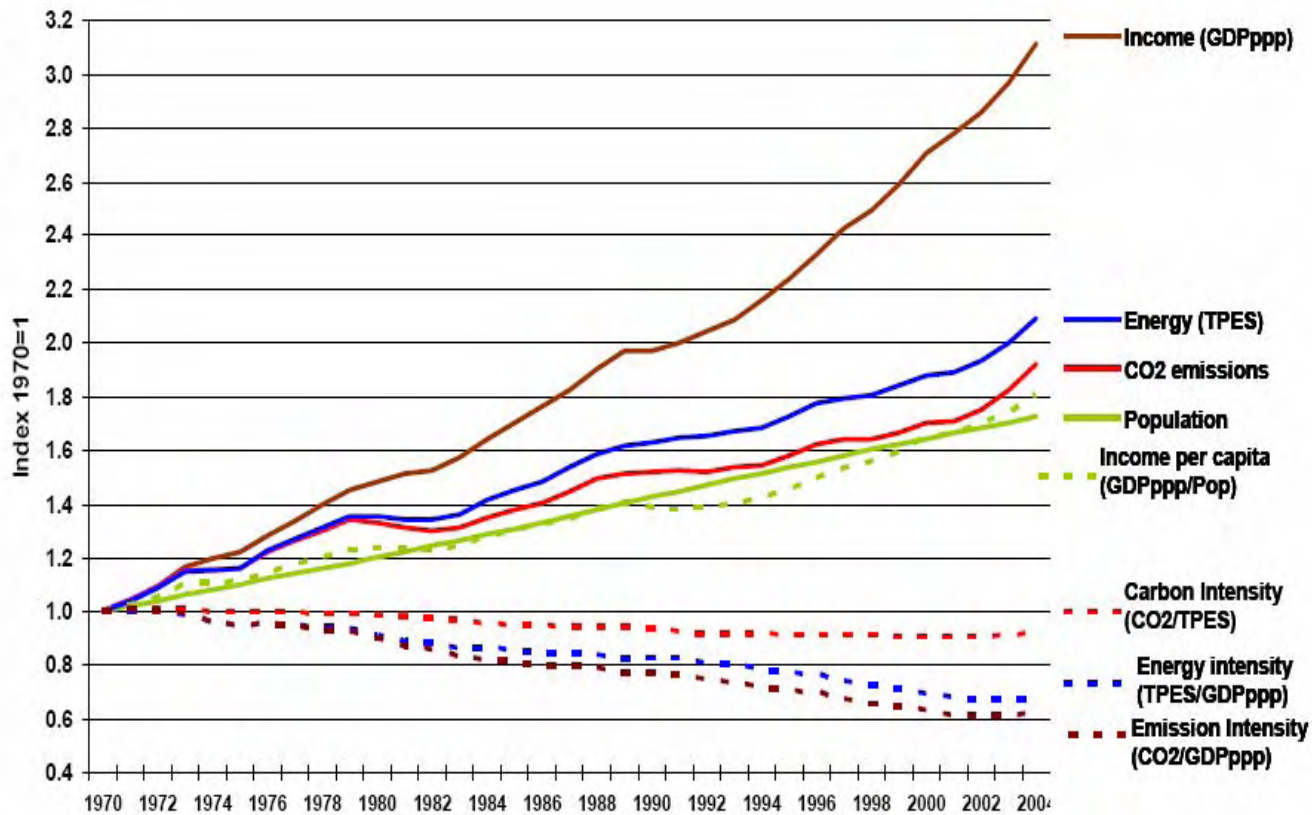


GHG Reduction Below 1990 Level Goals



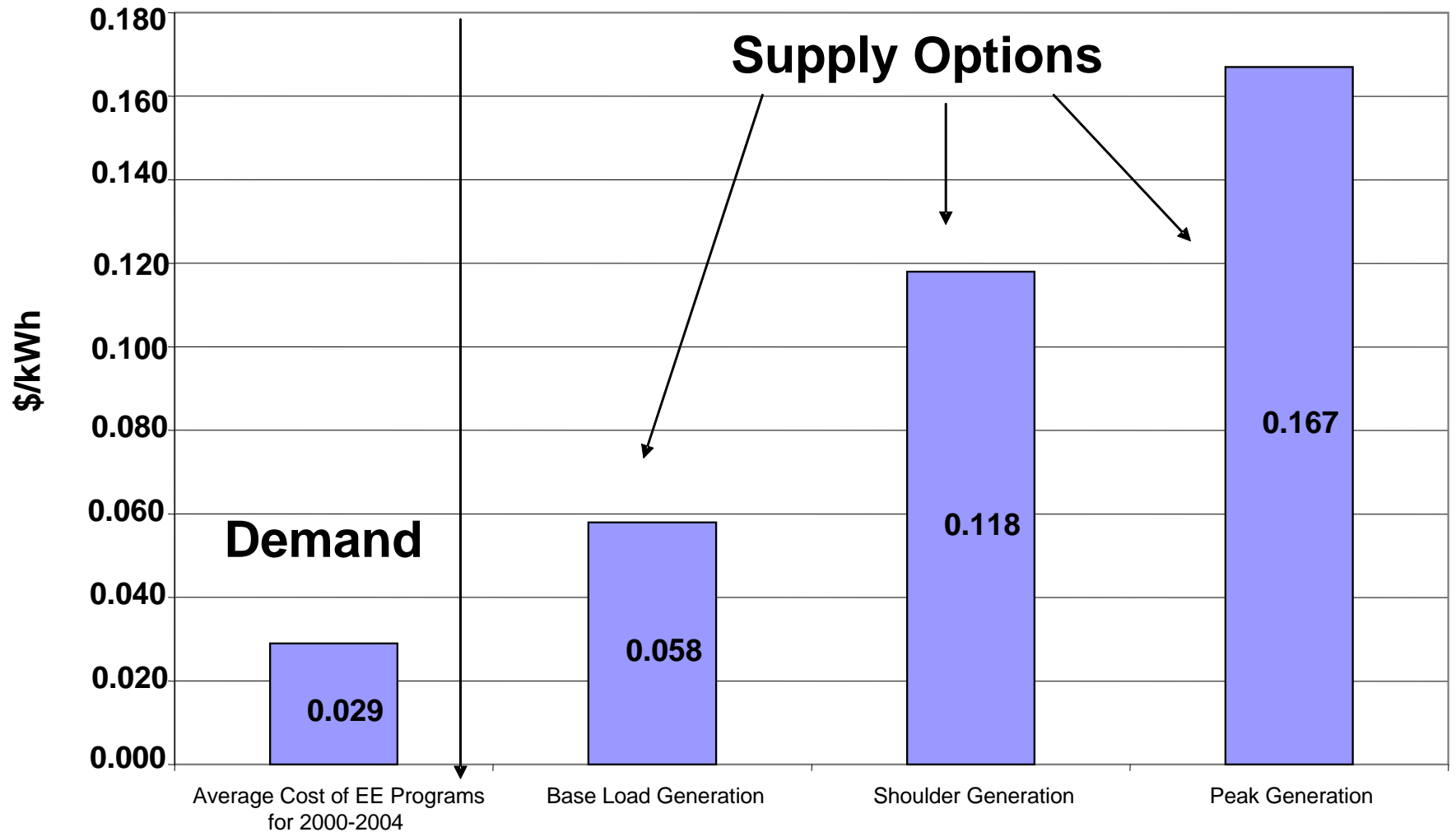


Energy & GHG



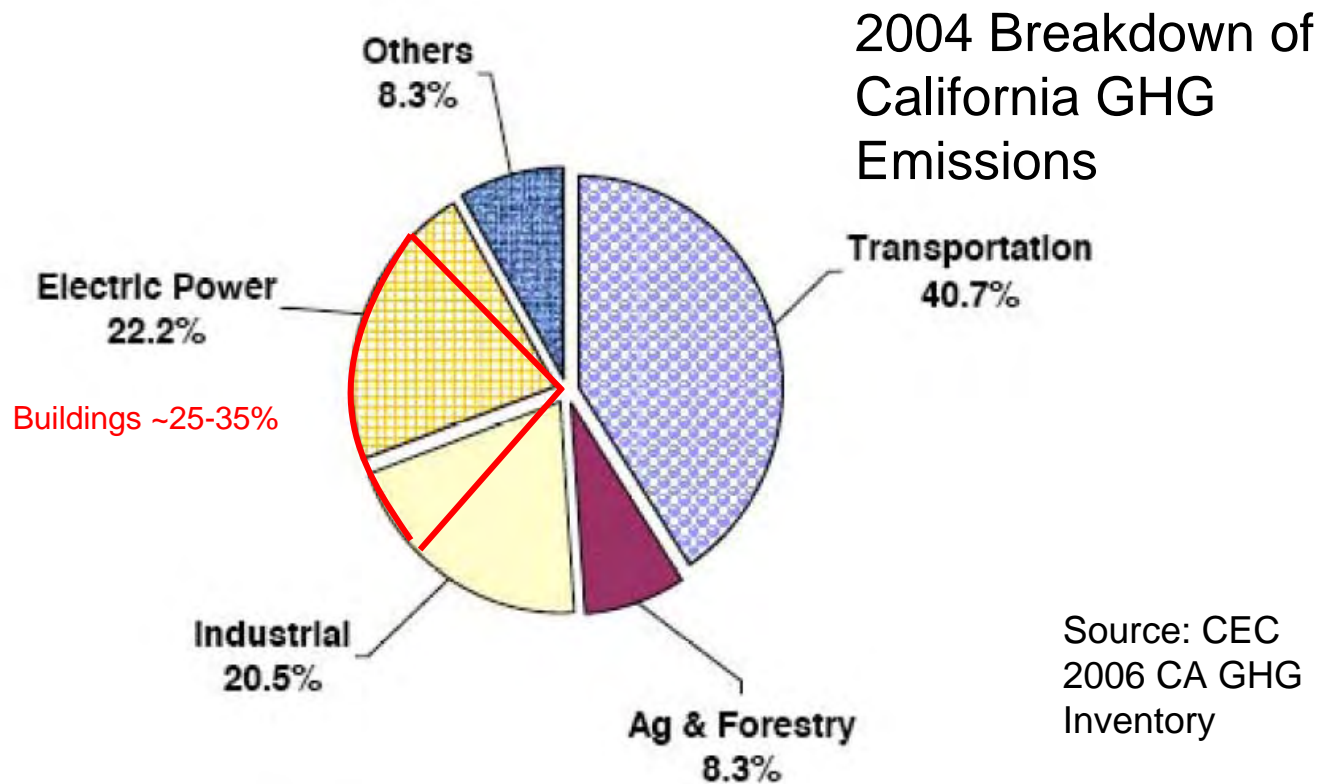


“Loading Order” - Efficiency First





Buildings Emissions Profile





Green Building Protocol

- Define Carbon Footprint of Base Case Buildings
- Calculate and Verify GHG Emission Avoidance of Green Building Measures
- Design Tool &/or Credit Calculator



Energy Commission Programs for Public Agencies

■ Technical Assistance Programs to Help Identify Energy Saving Projects

- ☑ Bright Schools Program
- ☑ Energy Partnership Program

■ Energy Project Funding

- ☑ Can provide up to 100% of your project costs
- ☑ Energy savings are used to repay us back for the funds that you use



Bright Schools Program

Free Technical Assistance

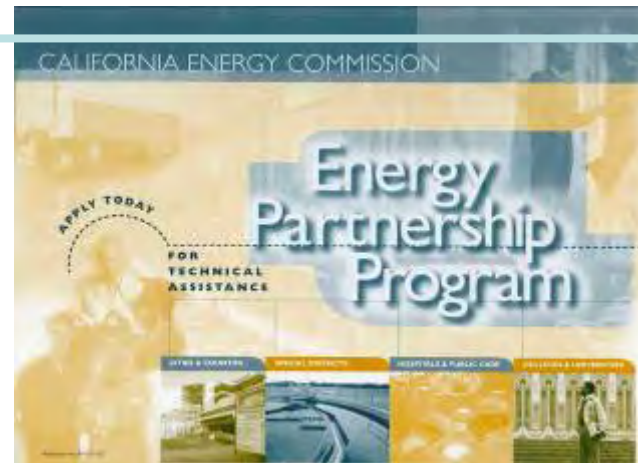


- Energy studies to identify energy saving projects.
- New construction/modernization design review.
- Project implementation assistance (assistance with contractor selection and preparing bid specifications)
- >50 participating Bay Area school districts



Energy Partnership Program

**Do you need help
identifying energy
projects?**



- We can provide:
 - ☑ Comprehensive energy audits for both gas and electric systems
 - ☑ Project specific feasibility studies
 - ☑ New construction and retrofit project review assistance
 - ☑ Contractor selection and bid specification assistance
 - ☑ DOE qualified specialist to assess your steam and heating systems and provide training to maximize energy savings
 - ☑ >50 participating Bay Area jurisdictions

Energy Commission pays up to \$20,000 of our consultant's cost



Energy Efficiency Funding Now Available : \$26 Million

- Funding for energy efficiency and self generation projects
- Interest rate is 3.95%
- Can provide up to 100% funding for projects
- Up to \$3 million per application—no minimum
- >60 participating Bay Area jurisdictions

EASY LOANS


No application fees, points, or hidden costs

Interest Rate
3.95%

FINANCING FOR ENERGY EFFICIENCY
& ENERGY GENERATION PROJECTS

APPLICATION

- Public Schools & Colleges
- Public Hospitals
- Local Governments
- Special Districts
- Public Care Institutions



ARNOLD SCHWARZENEGGER
Governor

California Energy Commission

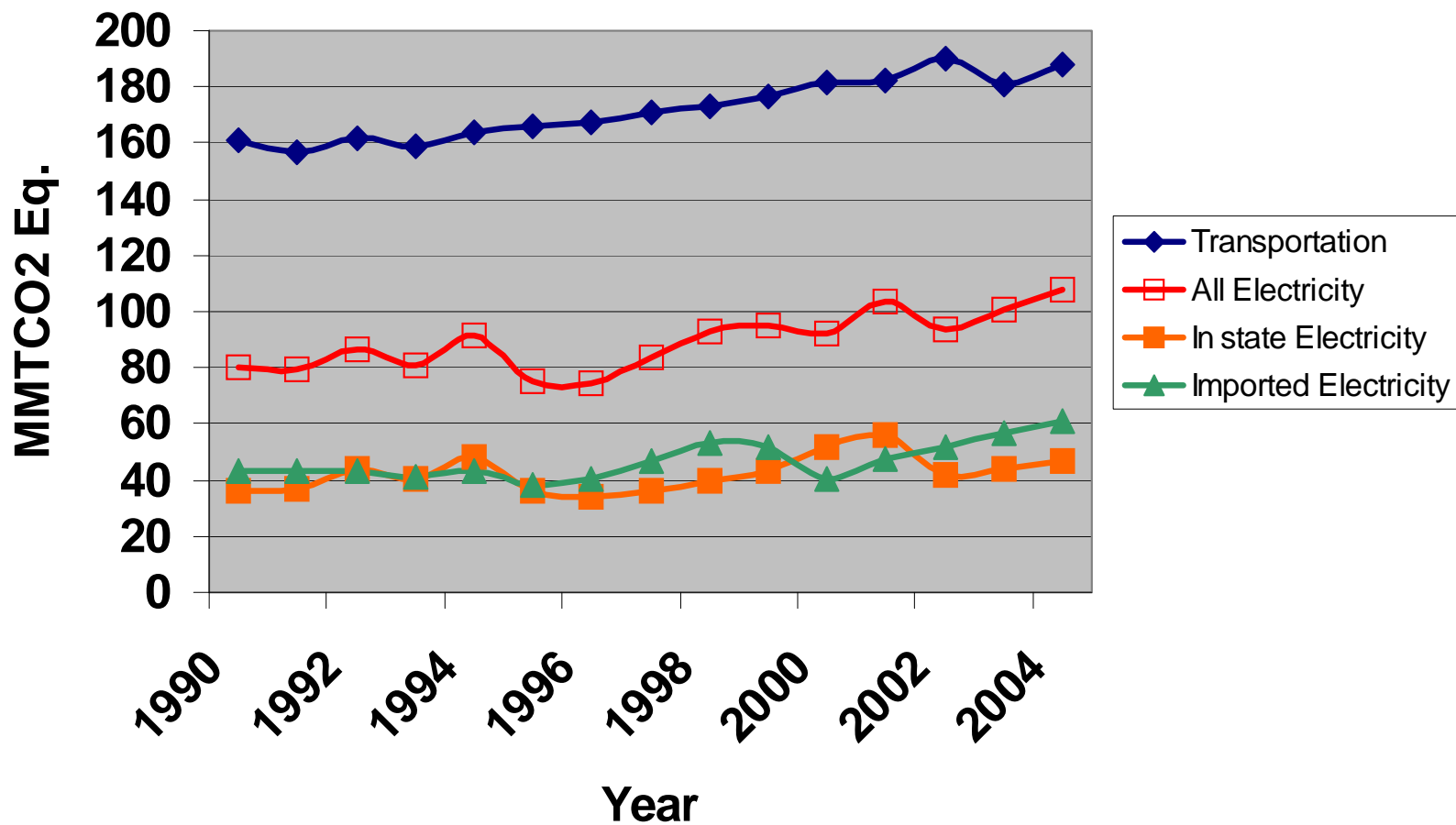
<http://www.energy.ca.gov/efficiency/financing/index.html>
Phone: (916) 654-4147

CEC-400-2007-010

First come, first served

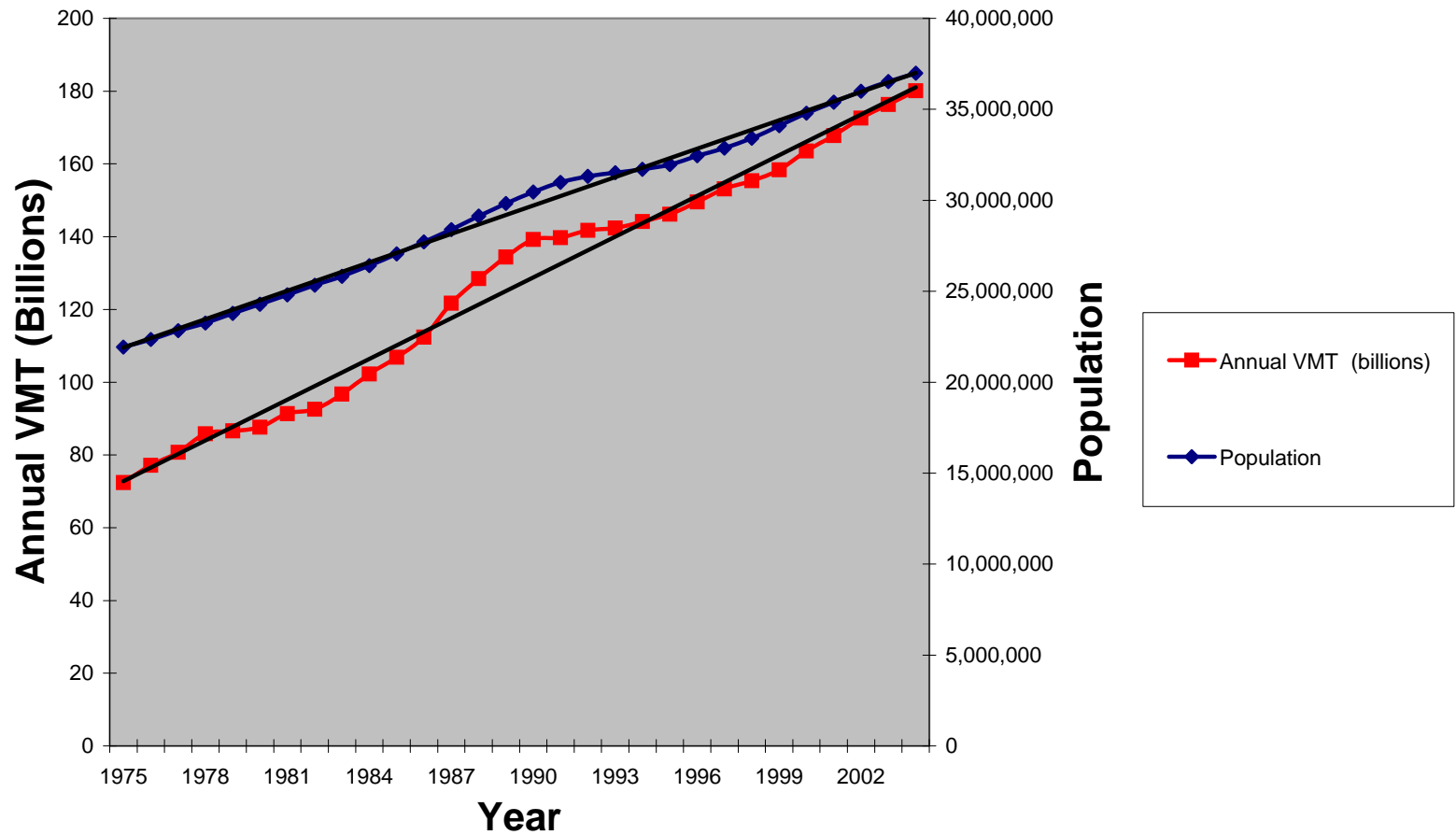


Transportation and Electricity Sector GHG Emissions





VMT and Population in CA 1975-2004





2006 IEPR Update

Land Use Recommendations

- ... require local governments to develop GHG reduction plans.
- ...develop criteria for smart growth development and prioritize infrastructure funding toward development that meets those criteria.
- ... legislation to require local governments to include an energy element in their general plans.
- Further work with state and local governments to understand energy/GHG consequences of land use decisions.



How would the Bay Area change if you take action today?





PLACE³S =

PLAnning for
Community
Energy
Environmental &
Economic
Sustainability



Smart Growth Principles

1. Transportation Choice
2. Housing Choice
3. Compact Development
4. Use of Existing Assets
5. Mixed Use Development
6. Natural Resource Conservation
7. Quality Design

Redevelopment “Hot Spots”



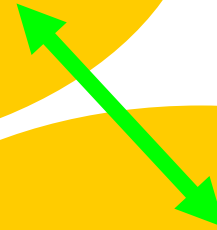
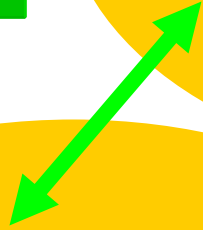
Same technique could be used for many other functions

PLACE³S
has
three
components

**Planning
and Urban Design**

**Measurement and
Analysis**

**Public and Agency
Involvement**





The Economist

JANUARY 27TH-FEBRUARY 2ND 2003 www.economist.com

Shake-up in Big Pharma

China's space blast

Europe's rotating slump

Serbia's encouraging election

Hating Hillary Clinton



The greening of America



